

AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraph beginning at page 28, line 4, as follows:

If a YES answer is obtained in step 801 meaning that the control of power supply to the heater 13 should be initiated, the routine proceeds to step 802 wherein the PWM signal, which will also be referred to as a heater power supply control signal below, provided to turn on and off a transistor in the heater driver 25 is increased in duty cycle for increasing the temperature of the gas sensor 1 up to a target one corresponding to the above threshold value quickly. The routine proceeds to step 803 wherein the duty cycle of the PWM signal is guarded with a given upper limit. This operation is taught in ~~USN~~ 10/157,866US Patent 6,870.142 assigned to the same assignee as that of this application, disclosure of which is incorporated herein by reference.

Please amend the paragraph beginning at page 28, line 16 as follows:

Alternatively, if the temperature of the gas sensor 1 has already risen, a NO answer is obtained in step 801. The routine, thus, proceeds to step 804 wherein the sensor impedance ZAC is controlled under feedback control such as typical PI control. Specifically, a difference between the sensor impedance ZAC and the target impedance is multiplied by a given gain to determine the proportional. The impedance differences accumulated so far is multiplied by a given gain to determine the integral. The duty cycle of the PWM signal is determined using the proportional and integral. The determination of the duty cycle may also be made using techniques as taught in the above ~~USN~~

~~10/157,866~~ US Patent 6,870,142. The routine proceeds to step 805 wherein the duty cycle of the PWM signal is guarded with a given upper limit.